

What is claimed is:

1. A regenerator circuit of serial data comprising:

means for receiving data from a transmission system for transmitting a plurality of serial data in one system clock period;

means for storing serial binary data as received for two system clocks;

means for comparing a specified pattern signal used in transmission with a data row constituting a continuous portion of the serial binary data as stored for two system clocks; and

determination means for determining the data row matching the specified pattern signal used in transmission;

wherein sampling of data is executed on the basis of information on a position of the data row, in the serial binary data for two system clocks, as determined by the determination means.

2. A regenerator circuit of serial data, comprising:

means for receiving data from a transmission system for transmitting serial data in one system clock period;

oversampling means for oversampling serial binary data as received;

means for extracting a plurality of serial binary data

signals from the serial binary data as oversampled;

means for storing the serial binary data signals as extracted for two system clocks;

means for comparing a special character signal used in transmission with a data row constituting a continuous portion of the serial binary data signals as extracted and stored for two system clocks;

determination means for determining a data row matching a specified pattern; and

means for computing maintenance and transition of information on a position of the data row, in the serial binary data for two system clocks, as determined by the determination means;

wherein the most stable sampled serial binary data signal row is selected out of the plurality of the serial binary data signals as oversampled on the basis of results of computation described above.

3. The regenerator circuit of serial data according to claim 2, said oversampling means being n-times (n is an integer) oversampling means comprising:

division means for dividing the serial binary data as oversampled into n groups of data in accordance with a timing

of the oversampling; and

selection means for selecting the group having the data row in which state of matching with special characters is maintained most often for each of the n groups of data as divided by the division means, wherein data of the group as selected by the selection means is selected.

4. A method of regenerating serial data, comprising the steps of:

receiving data from a transmission system for transmitting serial data in one system clock period;

storing serial binary data as received for two system clocks;

comparing a specified pattern signal used in transmission with a data row constituting a continuous portion of the serial binary data as stored for two system clocks;

determining the data row matching the specified pattern signal used in transmission; and

executing sampling of data on the basis of information on a position of the data row, in the serial binary data for two system clocks, as determined in the step of determining the data row.

5. A method of regenerating serial data comprising the

steps of:

receiving data from a transmission system for transmitting serial data in one system clock period;

oversampling serial binary data as received;

extracting a plurality of serial binary data signals from the serial binary data as oversampled;

storing the serial binary data signals as extracted for two system clocks;

comparing a special character signal used in transmission with a data row constituting a continuous portion of the serial binary data signals as extracted and stored for two system clocks;

determining a data row matching a specified pattern;

computing maintenance and transition of information on a position of the data row, in the serial binary data for two system clocks, as determined in the step of determining the data row; and

selecting the most stable sampled serial binary data signal row out of the plurality of the serial binary data signals as oversampled on the basis of results of computation described above.

6. The method of regenerating serial data according to

claim 5, said step of oversampling being the step of n-times oversampling, comprising the steps of:

dividing the serial binary data as oversampled into n groups of data in accordance with a timing of the oversampling;

selecting the group having the data row in which state of matching with special characters is maintained most often for each of the n groups of data as divided in the step of dividing the serial binary data; and

selecting data of the group as selected in the step of selecting the group.